STATE OF WISCONSIN \ DEPARTMENT OF MILITARY AFFAIRS
WISCONSIN EMERGENCY MANAGEMENT

2400 Wright Street
P.O. Box 7865
Madison, WI 53707-7865

DATE: February 1, 2006

TO: All Interested Persons

FROM: Roxanne Gray, WI State Hazard Mitigation Officer

SUBJECT: Training Recruitment: **An Introduction to ArcGIS for Emergency Managers and Applications of HAZUS-MH for Flood Modeling - March 14 thru 17, 2006**

Wisconsin Emergency Management in conjunction with FEMA Region V will provide training on HAZUS-MH MR1 to assist counties, local governments and tribal organizations in the use of HAZUS-MH. This free course is titled "An Introduction to ArcGIS for Emergency Managers and Applications of HAZUS-MH for Flood Modeling". The course will be held in Madison, Wisconsin at the Dept. of Military Affairs, Emergency Operations Center, 2400 Wright Street, Madison, WI. The course will begin at 8:30 a.m. on Tuesday, March 14th, and conclude at approximately 4:30 p.m. on Friday, March 17, 2006. Dress is casual.

This 4 day course will first cover hands-on tools designed to empower emergency managers, floodplain management staff, planners, engineers, public safety professionals, and others with the basic skills needed to visualize, query, and analyze information related to disaster mitigation, response, recovery and risk management using ArcGIS, the application on which HAZUS-MH is based. The course will then cover in-depth instruction and hands-on exercises that develop the skills needed to effectively use HAZUS-MH for modeling the impacts on communities from flooding.

Class size is limited to 21, recruitment is FEMA Region V wide. Please send your applications in early.

Wisconsin Emergency Management will pay for lodging if you travel more than 50 miles (one way) and do not wish to commute. **WEM will make reservations** for you at a local motel. Please note, expenses for travel, meals, and any other incidentals associated with your stay are your responsibility. Registrants will receive a letter of confirmation when the class roster is final.

Please complete the attached registration form, and return the form to Kent MacLaughlin at Wisconsin Emergency Management, 2400 Wright Street, Madison, WI 53707, no later than **February 27, 2006.**

If you should have any questions, or need further information, please call **Kent MacLaughlin at (608) 242-3226 or Shane Hubbard at (608) 242-3216**.

Encl: Registration Form

cc: WEM Management
         FEMA Region V

Advanced HAZUS-MH for Flood Training

Wisconsin Emergency Management/ FEMA Region V
March 14-17, 2006

Introduction:

Wisconsin Emergency Management, in collaboration with the Federal Emergency Management Agency, is hosting a <u>free</u> four-day course titled '*An Introduction to ArcGIS for Emergency Managers and Applications of HAZUS-MH for Flood Modeling*.

HAZUS-MH is a free ArcGIS extension developed by the Federal Emergency Management Agency that supports mitigation, response, recovery, and risk management for earthquake, hurricane, and flood related events. HAZUS-MH is designed to meet selected requirements of programs such as Disaster Mitigation Act of 2000 as well as to support those ongoing needs of communities that are related to planning for and responding to disasters. HAZUS-MH provides a diverse range of options that allow it to be effectively used by individuals and organizations with limited knowledge of hazard analysis as well as users with extensive expertise in the earth, building, and GIS sciences.

Course Description:

The first day of this hands-on course is designed to empower emergency managers, floodplain management staff, planners, engineers, public safety professionals, and others with the basic skills needed to visualize, query, and analyze information related to disaster mitigation, response, recovery and risk management using ArcGIS, the application on which HAZUS-MH is based. Topics will include spatial data concepts; symbolizing information, designing maps, charts, and reports using ArcGIS; and techniques for constructing both spatial and attribute related queries. This portion of the course will not provide hands-on instruction specifically on HAZUS-MH, but all exercises will use HAZUS-MH output and inventory data.

This remaining three days of the course will provide in-depth instruction and hands-on exercises that develop the skills needed to effectively use HAZUS-MH for modeling the impacts on communities from flooding. The course provides a detailed review of the methodologies used to compile the extensive out-of-the-box inventory that is provided with HAZUS-MH. This training also discusses techniques for updating the inventory, which is largely composed of best available national data sources, with more accurate aggregate and site-specific local data. Of particular importance, this course identifies those inventory data sets that should be given priority when updates are performed in order to produce the best possible loss estimates. Participants will become familiar with the many options that HAZUS provides for generating a flood depth grid including application of the Flood Information Tool which, when provided with user-supplied flood study inputs, calculates the most accurate flood depth and elevation information that can be produced by HAZUS-MH for flood hazards. Following a review of the hazard development process, the course will explore the multitude of maps, tables, and reports that HAZUS generates with a focus on how to interpret the wealth of information provided in these outputs. Finally, it will end with a discussion of the sensitivity of the model to variations in the quality of the inventory and hazard data.

Course Agenda

Day One – ArcGIS Training
Introduction to GIS
Exercise 1: Survey of ArcGIS
Symbolizing and Presenting Data
Exercise 2a: Symbolizing and Presenting Data
Symbolizing and Presenting Data
Exercise 2b: Creating Map Layouts
Query Tools
Exercise 3: Query Tools

Day Two – HAZUS Flood Model Training
Introduction and of HAZUS-MH
Installation of HAZUS-MH and Study Region Creation
Flood Model Inventory
Exercise 1: Exploring and Updating the flood model inventory
Terrain Surface
Exercise 2: Creating a Terrain Surface
Stream Delineation
Exercise 3: Delineating the Stream Network
Hyrologic Analysis
Exercise 4: Conducting a Hydrologic Analysis
Hydraulic Analysis
Exercise 6: Conducting a Level 1 Hydraulic Analysis

Day Three – HAZUS Flood Model Training
Review Day 2 Topics
Riverine Flood Information Tool
Exercise 7: Using the Riverine Flood Information Tool
Overview of Coastal Analysis
Demonstration of Coastal Level 1 and FIT Tool

Day Four – HAZUS Flood Model Training
Review of Day 3 Topics
Flood Model Analysis
Exercise 10: Exploring Flood Model Analysis Parameters and Running a Flood Model Analysis
Flood Model Results – Part I
Exercise 11: Exploring Flood Model Results
Flood Model Results – Part II
Exercise 12: Exploring the HAZUS SQL Database
Flood Model FAQs and Applications
Group Exercise

REGISTRATION INFORMATION

An Introduction to ArcGIS for Emergency Managers and Applications of HAZUS-MH for Flood Modeling
March 14 - 17, 2006
MADISON, WI

Please complete the information below and return (via mail or email) no later than Feb. 27th, 2006 to:
Kent MacLaughlin *kent.maclaughlin@dma.state.wi.us* or Shane Hubbard *shane.hubbard@dma.state.wi.us*
Wisconsin Emergency Management
2400 Wright Street, Madison WI 53707
Fax 608-242-3248

(Please fill out online and email or print clearly)

NAME

TITLE   AGENCY

SOCIAL SECURITY NUMBER   **(MUST BE PROVIDED TO REGISTER)**

HOME ADDRESS

CITY   ZIP   COUNTY

WORK PHONE #   FAX #

E-MAIL

> *State Privacy Provision*
> *Authorization: WI Stats 166.03 and E.O. 9397.*
> *Disclosure: Disclosure of personal information is voluntary; however, nondisclosure may result in delay in processing your application. Secondary Purpose: In accordance with Wisconsin Privacy Provision 15.04(m) WI Stats, the personal information you provide may be used for purposes other than for which it was collected*

LODGING INFORMATION

⊙ I live within 50 miles and do not need a room

⊙ I live over 50 miles away; please reserve a room(s) for the following nights

(Please check the appropriate nights)

☐ **Monday, March 13, 2006**   ☐ **Tuesday, March 14, 2006**

☐ **Wednesday, March 15, 2006**   ☐ **Thursday, March 16, 2006**

☐ Smoking   ☐ Non - Smoking

Do you require any special accommodations for a physical disability?

Kevin Mickey
Director, Professional Education and Outreach
The Polis Center
Indiana University Purdue University Indianapolis

Kevin is the Director of the Professional GIS Education Program for The Polis Center at Indiana University Purdue University Indianapolis and an Adjunct Faculty member at the Department of Geography at Indiana University Purdue University Indianapolis. The Professional GIS Education program, created and developed through his leadership, currently offers more than two dozen technical and theoretical courses in Indianapolis as well as on-site at client locations throughout the country. The program, recognized as a resource for its wide variety of standard courses as well as for customized education, has supported the needs of hundreds of organizations including the Federal Emergency Management Agency, the U.S. Department of Labor, the National Library of Medicine, and many state and local government, private sector, academic, and not-for-profit entities.

In addition to his management responsibilities, Kevin has also developed and taught a multitude of GIS courses through the Polis Center Education Program and through the Continuing Education Program, Geography Department, and School of Public and Environmental Affairs at Indiana University Purdue University Indianapolis. Instructional experience includes over 17 years of ESRI, Intergraph, and AutoDesk education in introductory through advanced applications including the ArcGIS product and many of its extensions. He is currently an ESRI authorized instructor for the ArcGIS I and II, Migrating to ArcGIS, ArcView 3.x Introductory and Advanced, and ArcView GIS Spatial Analyst courses. Kevin has also delivered dozens of presentations on GIS related topics at conferences and other forums around the world.

His involvement with FEMAs' HAZUS-MH program includes ongoing participation as a FEMA lead instructor for introductory through advanced courses. Kevin also designed and developed the *Introduction to ArcGIS for HAZUS-MH Users* course and has updated the *HAZUS-Multihazards Basic* and *Advanced HAZUS Flood* courses that are now taught as part of the FEMA HAZUS-MH core curriculum. He delivers all HAZUS-MH training in the State of Indiana through an agreement with the Indiana State Emergency Management Agency which has led to over 300 trained users to date. He has delivered HAZUS-MH training in Texas, California, Massachusetts, and at the Emergency Management Institute in Emmittsburg, Maryland. Kevin is also a FEMA authorized consultant for the earthquake and flood hazards under the FEMA Private Sector Initiative.

In addition to serving as an educator, Kevin has managed and supported over 300 spatial technologies projects since joining The Polis Center in 1990. His responsibilities in these projects have included design, development, testing, implementation, and analysis of complex GIS applications, models, and databases.

Kevin has served on a variety of committees that address cartographic and GIS related issues. These include the Indiana Geographic Information Systems Initiative (INGISI) Steering Committee, Standards Committee, and Web Committee. Kevin currently chairs the Education Committee for INGISI that addresses the educational needs of all sectors of GIS users throughout Indiana.   In addition he serves on the Midwest HAZUS Users Group Steering Committee.